

MISSOURI CONSERVATIONIST

VOLUME 84, ISSUE 11, NOVEMBER 2023
SERVING NATURE & YOU





Millstream Gardens Conservation Area



Never Lose Touch Fall Challenge

Embrace the cooler weather by exploring this trio of nature activities.

Get Your Nature Boost

Join podcast host Jill Pritchard to explore everything in nature — from health benefits and wildlife viewing to unbelievable conservation stories. Download *Nature Boost* for free at mdc.mo.gov/natureboost.

Go on a Bike Ride

Fall biking on a conservation area or local trail allows you to slow down and take in your surroundings. Find new opportunities to bike on MDC areas at short.mdc.mo.gov/Zr9.

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Nature photography can be incredibly rewarding. Grab a camera or your phone and head outside. Tips to get started:

- Find the right light — sunrise or sunset is a good time
- Pay attention to the background
- Remember the rule of thirds
- Keep your distance from wildlife

Discover Nature and **Never Lose Touch**.

For ways to connect with nature, visit mdc.mo.gov/neverlosetouch.



Contents

NOVEMBER 2023
VOLUME 84, ISSUE 11



FEATURES

10 Spreading the Good Fire

Prescribed burn associations help landowners bring out the best in their habitat.

by Josh Hartwig

16 Rethinking Beavers

Prized for more than just their pelts, they are a diner's delicacy.

by Gilbert Randolph

20 The Frugal Duck Hunter

Waterfowl hunting is more affordable at MDC's public wetlands.

by Bill Graham

DEPARTMENTS

- 2 Inbox
- 3 Up Front with Sara Parker Pauley
- 4 Nature Lab
- 5 In Brief
- 28 Get Outside
- 30 Places To Go
- 32 Wild Guide
- 33 Outdoor Calendar

Great
horned owl



MISSOURI CONSERVATIONIST



ON THE COVER

A redhead duck swims through the water.

📷 **NOPPADOL PAOTHONG**

1200mm lens, f/8
1/500 sec, ISO 400

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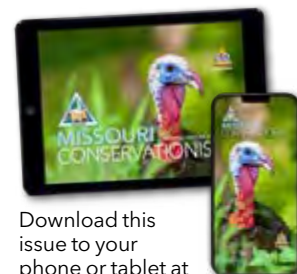
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WATCHING WILDLIFE

Danny Brown's article and pictures in the July issue were outstanding [*Watchable Wildlife at Water's Edge*, Page 14]. The one thing that caught my eye was just how cute the little mink was. Love your magazine.

Mike Kissel
Ballwin



Little Lost Creek

CREEK WALK

Thanks for doing the piece on creeks in the September *Conservationist* [Agent Advice, Page 7]. We hunt, raise hay, and other things in the Billy's Creek bottom. But the best times for us, our kids, and grandkids is just messing around in the creek. That was nicely done.

Jim Henry Wilson Novinger

LITTER BUGS

I am an avid reader of your magazine and appreciate the work that goes into researching and printing your publication. There are a lot of articles about wildlife preservation, but I see a need for more people getting involved in another way. Missouri has an abundance of litter bugs. There is no spray or trap for these bugs because they are in human form.

My husband and I have traveled all over Missouri and also do car trips out of state and we are appalled at the litter we see on Missouri roads and highways. You can hardly go a mile without seeing large trash bags, fast food bags, car tires, bottles, cans, cardboard, and white plastic bags blowing everywhere in trees, farm fields, across roads, etc.

My husband is a retired state trooper and he sees the danger to drivers because of the litter, and I'm a retired teacher and see the mess that I have tried to teach my students to recycle and dispose of properly. We both serve on a local team from our church that picks up litter on a regular basis on our designated road. I have written letters to state legislators, but we need more voices to make a difference.

Some states require a small deposit on bottles and cans that might be helpful. Mostly we need to change people's mindset about recycling and proper disposal of trash.

My youngest grandson, who is 8 years old, is very concerned about the litter and the danger to our plants and animals. He calls the litter "nature's tears." The plastic bags get caught in the trees, preventing proper growth, and animals smell food in the trash and get killed on our roads and highways seeking it out.

We have a beautiful state and lots to see, so let's keep Missouri beautiful.

Mary Varner Lee's Summit

CORRECTION

In *Crossbows* [September, Page 22], we misspelled Sharenda Birts last name.

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The Missouri Department of Conservation protects and manages the fish, forest, and wildlife of the state. We facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.



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Share your photos on Flickr at
[flickr.com/groups/mdcreaderphotos-2023](https://www.flickr.com/groups/mdcreaderphotos-2023)
or email Readerphoto@mdc.mo.gov.



1

1 | Sunset on
Missouri River by
Jian Xu, via Flickr

2 | Swamp
sparrow by
Michael Layne,
via Flickr

3 | Wahoo seed
pod by William
Allen, via Flickr



2



3



Want another chance to see your photos in the magazine?

➔ In the December issue, we plan to feature even more great reader photos. Use the submission methods above to send us your best year-round pictures of native Missouri wildlife, flora, natural scenery, and friends and family engaged in outdoor activities. Please include where the photo was taken and what it depicts.



Up Front

with Sara Parker Pauley

✱ There are still a few monarchs fluttering in our patch of wildflowers, but most have started their long journey south to Mexico. I worry for our monarchs as they head to their wintering ground, now just a postage stamp of habitat.

When the weight of despair feels heaviest for our winged pollinator friends, I remember when all seemed lost for waterfowl. Every story needs a hero, and for waterfowl, it was an American cartoonist turned conservationist, Jay "Ding" Darling. Appointed by President Franklin Roosevelt in 1934, Darling served as director of the forerunner to the U.S. Fish and Wildlife Service. He also attended the historic Sept. 10, 1935, meeting at the Tiger Hotel in Columbia that served as the birthing grounds for the Missouri Department of Conservation.

Darling led the charge to develop the Federal Duck Stamp program, including designing the first stamp, requiring waterfowl hunters to purchase a Federal Duck Stamp to fund wetland habitat restoration. Since 1934, 98 percent of all funds have gone to wetland restoration on more than 6 million acres, positively impacting waterfowl and many other species.

Darling was later called "the best friend ducks ever had." Other heroes still work tirelessly for waterfowl, such as partners like Ducks Unlimited and passionate hunters (read more on duck hunting, Page 21). So, for other species in decline, including the monarch, passage of the federal Recovering America's Wildlife Act would make a significant difference, but our wildlife will always need individual heroes, just like you.

Sara Parker Pauley

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Nature LAB

by Dianne Van Dien

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

WATERFOWL MANAGEMENT

Counting Waterfowl with Drones and AI

✳ Counting ducks and geese is not always as simple as it sounds.

“Try to count 100,000 ducks from the ground when you’re at the same level as they are,” explains MDC Waterfowl Biologist Andy Raedeke. “The ducks can be packed together so densely that basically they look like a big, black blob. And if they’re in vegetation like standing corn, there’s no way to get an accurate estimate.”

Counts done from the air also have drawbacks. “If you’re flying, you’re going at 100 miles an hour, so you’ve got only seconds to come up with your estimate,” says Raedeke.

About five years ago, Raedeke began working with the University of Missouri and the U.S. Geological Survey on an alternate survey method: a drone with a camera and artificial intelligence (AI).

Reid Viegut, a graduate student, has been determining the best transect pathways for the drone to fly and the best height to take photos without disturbing the birds.



Every year, biologists estimate the numbers of waterfowl that overwinter on Missouri’s wetlands. These annual counts help them determine how to manage the water levels and food resources needed to support the birds each winter.

MDC and partners are adapting drones and AI for waterfowl surveys

Computer science graduate students developed a mobile app to control the drone’s flight path and simplify camera settings, so the user won’t have to know photography to get a good image. They then created a desktop app to count the waterfowl in the photos. The app uses an AI model the students trained to distinguish between vegetation and birds. It even identifies the species (mallard, pintail, Canada goose, etc.).

This fall, Viegut is doing a full run and fine-tuning the process.

“I’m hopeful,” Raedeke says, “that as soon as next year, some MDC managers will begin doing their counts with drones.”

At a Glance

MDC and partners are developing a more efficient way to count ducks and geese by using drones and AI.

Partners:
USGS, University of Missouri



A camera on the drone takes a series of rapid-fire photos of waterfowl in wetlands.



AI counts the ducks in the photos but must be trained to tell ducks from plants.

WETLAND WATERFOWL: DAVID STONNER; DRONE: AL REID VIEGUT

In Brief

News and updates from MDC



CWD MANDATORY SAMPLING, NEW FIREARMS PORTION

MDC URGES HUNTERS TO HELP IN THE FIGHT AGAINST CWD

➔ MDC reminds hunters who harvest deer in select Chronic Wasting Disease (CWD) Management Zone counties during opening weekend of deer season, Nov. 11-12, that they must take the deer (or its head) on the day of harvest to one of our mandatory sampling stations.

MDC has included 14 new counties as part of the CWD Management Zone this year: Bollinger, Caldwell, Carroll, Clay, Clinton, Dallas, Grundy, Jasper, Livingston, Madison,

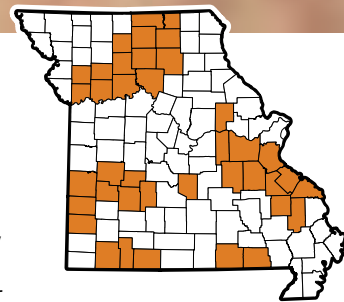
Montgomery, Pemiscot, Ray, and Schuyler.

As with all counties in the CWD Management Zone, grain, salt products, minerals, and other consumable products used to attract deer are prohibited year-round.

Hunters must also follow carcass transportation regulations. The antler-point restriction has also been removed from Caldwell, Carroll, Clinton, Grundy, Livingston, Montgomery, Ray, and Schuyler counties.

MDC is also offering a new CWD portion of firearms deer season Nov. 22-26 in CWD Management Zone counties. Hunters will be able to use any unfilled firearms deer hunting permits during the CWD portion and must abide by the statewide limit of one antlered deer during the firearms deer season, all portions combined. Hunters must also abide by county-specific firearms antlerless permit numbers.

Get more information on regulation changes and other details for deer hunting from our *2023 Fall Deer & Turkey Regulations and Information* booklet, available where permits are sold and online at short.mdc.mo.gov/ZvC.



Mandatory sampling is required in 39 counties Nov. 11-12.



STAFFED SHOOTING RANGE FEES INCREASING

Operation and maintenance costs at MDC's five staffed shooting ranges have dramatically increased over the past several years, including labor costs, supplies, and contracting for general maintenance. As a result, MDC will increase shooting fees from \$4 per hour/round to \$5 per hour/round for rifle, handgun, shotgun, and archery shooting starting Nov. 1. The price increase will apply at the following ranges:

- Andy Dalton Shooting Range and Outdoor Education Center in Greene County
- August A. Busch Memorial Conservation Area Shooting Range and Outdoor Education Center in St. Charles County
- Jay Henges Shooting Range and Outdoor Education Center in St. Louis County
- Lake City Range in Jackson County, and
- Parma Woods Range and Training Center in Platte County.

"While our staffed shooting ranges were primarily constructed for hunters to prepare for hunting seasons, the public's use for recreational target shooting has increased significantly," said MDC Hunter Education and Shooting Range Coordinator Justin McGuire. "Operation costs, maintenance costs, and supply costs have also increased over the past several years."

About 80,000 shooters use the ranges annually.

Learn more about MDC shooting ranges online at short.mdc.mo.gov/Z9W.

GOVERNOR APPOINTS NEW COMMISSIONER

Missouri Governor Mike Parson appointed Raymond T. (Ray) Wagner Jr., of Town and Country in St. Louis County, as the newest member of the four-person Missouri Conservation Commission on Sept. 29.

"We welcome Ray Wagner to the commission and look forward to serving with him to protect and manage the fish, forest, and wildlife of our beautiful state," said Commission Chair Steven Harrison. "He brings a wealth of business expertise, valuable public-service experience, and a love of conservation."

Wagner has been an avid outdoorsman all his life, actively supporting conservation issues. He serves on the board of directors for the Missouri Conservation Heritage Foundation and is active with the Great River Habitat Alliance. He is also a lifetime member of the National Rifle Association, Ducks Unlimited, and a member of Quail Forever and Pheasants Forever.

"All these activities continue to fuel my love for the outdoors and conservation advocacy," Wagner said. "My interest in wildlife and conservation has never wavered. The outdoors and conservation-related activities have long been my passion and I look forward to the opportunity to serve on the Missouri Conservation Commission."

Wagner serves in the Office of Missouri Attorney General Andrew Bailey as the first assistant attorney general and chief counselor. Previously, Wagner served as the senior

vice president of global government and public affairs for Enterprise Holdings, the rental car company.

Wagner holds a Juris Doctor degree from the University of Missouri–Kansas City School of Law, an LLM law degree from Washington University School of Law, a Master of Business Administration degree, and Bachelor of Arts degree in political science, both from Saint Louis University. He also was an adjunct professor of law at Washington University School of Law.

Wagner and his wife, U.S. Congresswoman Ann Wagner (R-MO), have three children and one grandchild.

The Missouri Conservation Commission consists of four members appointed by the governor with the advice and consent of the Senate. Commissioners serve six-year terms with no salary or other compensation with not more than two allowed from the same political party. Their responsibilities include appointing the MDC director, serving as MDC policy makers, approving regulations of the *Wildlife Code of Missouri*, strategic planning, and budget development and major expenditure decisions.

Wagner replaces Barry Orscheln of Columbia whose six-year term as a conservation commissioner expired July 1. Wagner joins Commission Chair Steven D. Harrison of Rolla, Vice Chair Margaret F. (Marge) Eckelkamp of Washington, and Secretary Mark L. McHenry of Kansas City.

For more on the commission, visit MDC online at short.mdc.mo.gov/ZoA.



The Missouri Conservation Commission and MDC welcome Ray Wagner Jr. of Town and Country as the newest member of the four-person conservation commission.

Ask MDC

Got a Question for Ask MDC?

Send it to AskMDC@mdc.mo.gov
or call 573-522-4115, ext. 3848.



Eastern red bat

Q: Are red bats rare in Missouri?

➔ Eastern red bats (*Lasiurus borealis*) are not rare in Missouri. One of 14 species of bats that occur in the state, eastern red bats are present in Missouri year-round. Like birds, they migrate north in the spring and summer and south in the winter. They hibernate in leaf litter and hollow trees of south-facing slopes in the southern half of Missouri during the winter.

They maintain body temperatures just above freezing and cannot withstand prolonged periods of below-freezing temperatures. By spring, many have depleted fat reserves and lost a quarter of their pre-hibernation weight. Because

of their migratory nature, they're not thought to spend much time in caves at all.

For more information, visit short.mdc.mo.gov/4TF.

Q: We found a baby snapping turtle. What should we do?

➔ The best thing to do is leave this turtle where you found it. Snapping turtles have developed adaptations to survive Missouri's cold winter temperatures. They overwinter in water by burying themselves into the mud bottom, underneath logs and sticks, and within overhanging banks of ponds, lakes, swamps, marshes, or river backwaters.



Landon Leonard

CASS COUNTY
CONSERVATION AGENT

offers this month's

AGENT ADVICE

November ushers in one of Missouri's most popular times of the year — deer season. If you're looking for a place to hunt, MDC has options that are only a click away. The *2023 Fall Deer & Turkey Hunting Regulations and Information* booklet lists conservation and public areas — divided by region — open for hunting. It further details the game you can harvest and allowable methods. MDC also offers a *Places to Go* tab on its website where you can type in a county of interest and find a list of areas and available activities, including hunting. Be sure to have a proper permit and understand all regulations for the area you will be visiting. To access the booklet, visit short.mdc.mo.gov/4eu, and to access *Places to Go*, visit short.mdc.mo.gov/Z9o.

What IS it?

Can you
guess this
month's
natural
wonder?

*The answer is on
Page 9.*



WE ARE CONSERVATION

Spotlight on
people and partners

by Emily Franklin

Julia Hunter

Finding Her Spark

Julia Hunter loves teaching kids about the beauty and benefits of nature. She attributes her own experiences from childhood — fishing with her dad and sitting outside amongst the trees — for sparking her passion for the outdoors.

Lighting the Spark for the Next Generation

After college, Julia looked for ways to relieve stress. She started volunteering with the Missouri Master Naturalist program, Forest ReLeaf, Stream Team, and visiting conservation areas around Missouri. Julia uses her knowledge as a master naturalist to teach groups, such as her granddaughter's girl scout troop, about nature and valuable outdoor skills.

In Her Own Words

"I just have so much fun being outdoors. It is a stress-reliever for me. We, as Missourians, need to get our kids outdoors, help them connect with nature, and spark their curiosity by showing them the lifecycle of a butterfly, taking them hiking or fishing."

by Cliff White

Julia loves trees and is passing that appreciation on to her granddaughter, Quiara. When they are together amongst the trees, they are in their happy place.



What's **your** conservation superpower?

GIVE NATURE-THEMED HOLIDAY GIFTS

Have nature lovers on your holiday gift list? MDC's online Nature Shop makes holiday shopping a breeze for anyone interested in nature-themed gifts. Offerings include the ever-popular *2024 Natural Events Calendar*, plus a variety of books and more.

Holiday shoppers can also skip retail stores and visit one of our nature and education centers around the state, including in Kirkwood, Cape Girardeau, Springfield, Kansas City, Blue Springs, and Jefferson City, for an array of reasonably priced, nature-themed holiday gifts. Find hours and locations at short.mdc.mo.gov/4JV.

MDC's popular holiday gift offerings include:

- *2024 Natural Events Calendar* (\$9) — This annual favorite has amazing images of native animals, plants, and places, along with phases of the moon, holidays and days of recognition, daily notes about natural events, and more.
- *Coneflower Nature Journal* (\$8) — It includes simple tips to get started drawing or writing about nature. It is spiral bound with plenty of blank pages.
- *Cooking Wild in Missouri* (\$16) — This favorite cookbook features more than 100 recipes for native game, fish, fruits, nuts, and mushrooms.
- *Strange but True* (\$8.95) — This fun offering was adapted from the pages of MDC's *Xplor* magazine and features 350 weird and wild facts and illustrations about creatures that inhabit Missouri.
- *A Paddlers Guide to Missouri* (\$9) — This newly revised edition makes a great gift for canoeists, kayakers, and floaters with color photos, maps, and descriptions of 54 rivers and streams. The 102-page, spiral-bound guide includes trip planning tips, equipment recommendations, paddling pointers, and more. New to the 2023 edition are maps of the upper Mississippi River from Hannibal to St. Louis and an expanded section on the Big River.



- *Owl and Nuthatches Notepad Sets* (\$8 each) — This is great for gift-giving. Each set includes 12 cards of either a barred owl or pair of brown-headed nuthatch birds.
- *Missouri's Wild Mushrooms* (\$26) — This book is a great guide for hunting, identifying, and cooking the state's most common mushrooms.
- *Discover Missouri Natural Areas, Second Edition* (\$19.95) — This handy reference helps nature lovers experience 50 great examples of our state's natural heritage. The new edition features updated maps, text, references, and scientific names.
- *The Amphibians and Reptiles of Missouri, Third Edition* (\$29) — This classic book has been updated and expanded to a 514-page illustrated guide that provides descriptions, distribution, habitats, habits, breeding, and other information on nearly 120 species of native salamanders, toads, frogs, turtles, lizards, and snakes.

Buy these and other items at our nature or education centers, through our online Nature Shop at www.mdcnatureshop.com, or by calling 877-521-8632. Order early. Applicable tax, shipping, and handling costs will apply.

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WHAT IS IT? WILD TURKEY STRUTTING

Adult male wild turkeys — or toms — are very large and dark birds with bare, red and blue heads and red wattles on their throats and necks. Their feathers are bronzy and iridescent. Male turkeys gobble to announce themselves to males and to attract females. They also perform elaborate strutting displays for females, spreading their tails like a peacock and puffing out their feathers.





Prescribed fire is an effective tool for landowners when it is kept controlled and contained.



SPREADING THE GOOD FIRE

PRESCRIBED BURN ASSOCIATIONS HELP LANDOWNERS
BRING OUT THE BEST IN THEIR HABITAT

by Josh Hartwig | photographs by David Stonner

With a strong interest in nature, Mark Loehnig says he strives to maintain his family's western Perry County farm in its natural state — “as nature intended it.”

Loehnig, a retired veterinarian, and his brother inherited their family's farm. They strive to “reboot nature,” providing the type of early successional plants needed to produce more quail within the landscape.

Since 1985, Loehnig's farm has been enrolled in the Conservation Reserve Program, a federal land conservation program that offers landowners incentives to remove environmentally sensitive land from agricultural production and plant species that will improve environmental health and quality. Managing that property requires the planned, controlled burning of the area.

“That's my main reason of using prescribed fire on my farm,” Loehnig said. “It has produced the brood-rearing habitat that my farm once lacked.”

A PBA WAS BORN

Loehnig planted warm-season grass in 1998 and learned to manage the grass with prescribed fire, he said. But at first, he struggled getting enough volunteers to help conduct the burns.

“So, one day, a few years ago, I asked a fellow quail biologist to put together a list of landowners interested in using prescribed fire,” he said. “And soon after, a PBA was born.”

PBA stands for prescribed burn association, which is a group of landowners, land managers, and community members organized to make prescribed burning safer and more accessible.



Top: An aerial view of the fire as it burns.



Left: Members of the Foothills Prescribed Burn Association gather and get ready for a day of burning.



Top: The fire crew has a safety briefing where they go over the plan, map, and discuss assigned roles.

Bottom: Crew members watch the fire line to make sure it stays contained.



ORGANIZED, EFFICIENT, SAFE 🔥

Shelton Sago, a retired optometrist, has owned 114 acres in southeast St. Francois County for 13 years. His first prescribed burn was completed in 2022 with help from the Foothills Prescribed Burn Association (PBA).

“PBAs provide an organized, efficient, safety-oriented means of conducting prescribed burns,” he said.

Sago understands the need for more fire and the creation of more PBAs.

Formed in 2019, the Foothills PBA — which draws members from Perry and Bollinger counties — joined nine other similar groups statewide.

The development of a strong PBA requires the participation of dedicated like-minded folks willing to donate some of their time to the benefit of others and fire-dependent ecosystems.

Wes Buchheit, an active Foothills PBA member and Missouri prescribed fire coordinating wildlife biologist with Pheasants Forever, Inc. and Quail Forever (PFQF), says he became more familiar with PBAs and their benefits as he engaged with the Missouri Prescribed Fire Council (MPFC) and served on the MPFC executive committee. Within those capacities, he assisted the Foothills PBA in their formation.

“PBAs help overcome the common hurdles in applying prescribed fire on private land, including lack of knowledge, training, experience, equipment, and people,” he said.

Buchheit describes it as people willing to help one another, “as a neighbor-helping-neighbor approach.”

“It usually takes between four and six people to properly conduct a prescribed burn,” Buchheit said.

In his current role with PFQF, Buchheit has been able to support existing PBAs and to help community members and conservation partners pursue PBA formations statewide.



Paul Breitenstein provides a safety briefing on tree snags.

WINDOWS OF OPPORTUNITY

PBA members are required to complete prescribed fire trainings, such as the MDC Prescribed Burning for Missouri Land Managers training, and possess a written burn plan.

“A PBA with engaged and committed members greatly enhances the probability that a burn will occur within those windows of opportunity,” he said. “It takes a commitment of time and resources on the part of landowners who value the preservation of these natural communities.”

Buchheit says training is the foundation in learning to conduct a prescribed burn, and participating on prescribed burns continues to build upon that foundation.

“Most landowners would like to participate on several burns before conducting one on their property,” he said. “Joining a PBA is the best way to be informed about every burn opportunity to gain hands-on experience and continue to build their prescribed fire skills and abilities.”

Most PBAs set annual membership dues at \$25 and require members to assist with one to two burns before receiving help with their prescribed burn, he says.

Established PBAs have been able to obtain proper prescribed burn equipment — drip torches, backpack blowers, water units, two-way radios — through grants and donations from members and local businesses. Support is also obtained from grants, made possible by agencies and not-for-profit conservation organizations, including MPFC, the National Wild Turkey Federation, PFQF, and MDC.

In addition to proper funding, Sago says safety and sufficient manpower are imperative for the success of a PBA.

“More volunteers provide more timeframes to conduct burns,” he said. “Adequate weather windows sometimes are few and short. More volunteers can provide the needed manpower for the short windows to conduct more burns safely.”



Local high school student and conservation volunteer Cadence King learns the basics of prescribed fire as she uses a drip torch.

FIRE IN THE TOOLBOX

Fire is a tool that is extremely useful when correctly applied to achieve an objective. In Missouri, there are numerous natural communities that benefit from and may be dependent on periodic fire. Some examples include prairies, glades, woodlands, and savannas.

“Periodic fire helped shape Missouri’s fire-adapted plant communities and can be used to manage natural communities, agricultural lands, and to help control invasive species,” said Buchheit. “Prescribed fire is arguably the most efficient and cost-effective land management tool we have. It holds the power to restore and maintain habitat all through a natural process.”

And to dive even deeper, prescribed fire reduces fuel loads to lessen the probability of and intensity of wildfires, according to Buchheit. It can set back target plants and can also help promote desired plant species within an area, he says. Plant response is largely influenced by timing, fuel conditions, and ignition techniques of the prescribed burn.

MDC agrees, understanding fire sets back woody seedlings and saplings, removes litter, and stimulates native forbs, grasses, and tree species, such as oaks and shortleaf pine.



Above: Prescribed fire sets back woody seedlings and saplings, removes litter, and stimulates native forbs, grasses, and tree species.

Top Right: Prescribed fire doesn’t require a lot of equipment. Some of the essentials include a rake, drip torch, and knowledge.



Many landowners and land managers recognize the benefits of fire but don’t know where to begin or how to ask for assistance with conducting their own prescribed burns. The use of prescribed fire is a very effective and efficient tool, said Paul Breitenstein, vice-president of Foothills PBA and an MDC volunteer with more than 40 years of service as a structure and wildland firefighter. However, it must be done safely. A PBA with properly trained and mentored members greatly expands that margin of safety and probability a burn can and will be completed, giving native habitats the chance to flourish, he said.

“In order for habitats and ecosystems to be healthy, some means of rejuvenation need to take place.” ▲

Josh Hartwig is MDC’s media specialist for the Southeast Region.



For more information about prescribed fire and PBAs in Missouri, visit short.mdc.mo.gov/Zrf.





Rethinking Beavers

PRIZED FOR MORE THAN JUST THEIR PELTS, THEY ARE A DINER'S DELICACY

by Gilbert Randolph | photographs by David Stonner

MISSOURI'S HISTORY WITH BEAVERS IS complicated. Westward expansion was due, in large part, to the fur trade. The economy that kick-started St. Louis and Kansas City owes its inception to the trade of beaver pelts. At the turn of the 20th Century, beavers were nearly extirpated from Missouri, their statewide population being estimated at somewhere around 12. Since then, beaver colonies across the state have rebounded and we have a stable population. Still, our relationship with these animals can be tenuous, as their interests and our own often conflict. They can cause cropland to flood due to their damming behavior, put holes in levies big enough for an adult human to crawl into, and chew down trees that landowners value.

Conversation around beavers often stops at their decimation and recovery, with little thought at the future of our relationship with them. There is a case to be made that beavers have been underappreciated for a long time. The value of their fur and their habit of causing us inconvenience are just a small part of the conversation on why beavers should be held in the same esteem as white-tailed deer, wild turkey, and our other favorite species. Beavers should be recognized for both their culinary potential and their importance to the wetland ecosystems that our other native wildlife depend on.

The entire beaver, from head to flat tail, is useable. This entree pairs beaver barbacoa tacos with charro beans made with dry, cured beaver tail fat "bacon."

Meeting the Beaver

Wade and Rachel Truong started beaver trapping by accident. Both were veterans of the restaurant industry and sought permission to duck hunt on a private property. The landowner allowed them access on one condition — that they help trap beavers.

“Trapping sometimes doesn’t have the best optics,” Rachel said. “I had kind of coached myself into the whole thing by basically convincing myself that we’d go out once or twice as a favor to the landowner, be wildly unsuccessful because we had no idea what we were doing, and that would be that.”

As is often the case with trapping though, their expectations were not met.

“We came back the morning after setting our first traps and were completely shocked to find two huge beavers in the conifers,” she said. “We took them home, cooked up the backstraps, and the rest is history. It was some of the best wild game meat I’d eaten, and any hesitation I had about taking them evaporated.”

My own experience mirrors Wade’s and Rachel’s. I was introduced to trapping when a friend showed me how to trap muskrats. I got permission on a small property and the landowner offhandedly mentioned that I could trap beavers as well. I bought two foothold traps, watched a few YouTube videos on how to make sets, and in two weeks I had caught one. I was hesitant to try a 30-pound aquatic rodent but was pleasantly surprised at the flavor.

Beaver Cuisine

Wade and Rachel are at the forefront of beaver culinary innovation, applying culinary techniques to beaver ranging from sous vide beaver hams, to beaver prosciutto and other classic charcuterie approaches.

“In a broad sense, I get the feeling that ‘nuisance,’ is dependent on value,” Wade said. “Beavers have a low value culturally. Their hides aren’t worth much in today’s market, and their activity can dramatically change a landscape. And because they aren’t generally seen as a food, they have little value to most people. We see them as a high-value food, just like most of the game we pursue, so we like to see an abundance of them.”

Everyone has heard the old story of trappers eating beaver tails, but the uses of beavers go far beyond that. A favorite preparation of mine is to cure chunks of meat, grind it with pork fat, then make smoked sausages.

Beaver hams can also be cured and smoked like whole hams. The belly meat — also known as skirt or flank steak — can be eaten in fajitas, and the fat can be rendered down for a cooking oil, useful in frying, gravies, and baking.

Wade and Rachel’s favorite preparation is the tail meat, between the tail and the hindquarters, which Wade says is an analog to oxtail.

“It’s tough, full of connective tissue, and is one of the only cuts of wild meat that has a lot of fat,” Wade said. “It can be used in anything from posole to pho, to stroganoff or classic pot roast. Once cooked low and slow, beaver tail is tender, rich, and unlike almost any other cut of wild game.”

Beaver is incredibly versatile. The fat can be rendered down for cooking oil and used in biscuits, soups, pastries, and more. The meat is rich and is good dry cured, braised, ground, even fried.



The only limit to the beaver’s culinary value is your creativity. Beaver is excellent in everything from pho and ramen to stroganoff and schnitzel.



Woods Skills and Habitat

The muddy rivers and marshes of Missouri are appreciated perhaps most by duck hunters and trappers. More than just ducks though, impregnable wetlands offer safe havens for an eclectic group of migratory birds. Herons, rails, grebes, geese, and more thrive in the habitat that beavers help create. In large reservoirs, springtime mudflats where beavers create channels and pools offer some of the best catfishing you can find as they push up into a foot or less of water after good rain. Bucks find refuge in the willow thickets of marshlands and invaluable deer hunting intel can be learned by exploring the frozen canals and islands where beavers thrive most.

“Trapping has definitely made me a better woodsman,” Wade said. “It’s cold, hard, messy work, so you learn how to move efficiently and safely around cold water. Things are always breaking, or you have to improvise, so you’re constantly learning new things and trying to figure things out after the fact. It’s enriched my entire outdoors experience.”

Rachel agrees but takes it a step further.

“On top of the woodsmanship, I think getting into trapping has also made me more thoughtful about my beliefs — what is the impact of my consumption, how do I manage it, and what values do I prioritize?”

Beavers offer a unique avenue to connect with nature because they hit such a variety of experiences. Learning to read sign and predict beaver movement is an education in itself. Fur handling, the art of tanning, and how to create things with fur is a tradition that is in danger of dying out. Beavers are a perfect opportunity to explore our national and natural history.

Trapping doesn’t require a lot of investment in gear. Even a small line of four or five sets can yield enough beavers to help fill your freezer. Add to that the hide and castor and you’ll be hard pressed to find a more useful animal.

As recognition of their culinary value grows, our appreciation of them as a game animal can increase.

Lastly, their value to riparian and wetland ecosystems is becoming more recognized. Conservation projects in the west, where water is scarcer, have started to use beaver dam analogs, or man-made structures that imitate beaver dams, to help maintain rivers and creeks that might otherwise run dry. These habitats have cascading benefits, creating places where wild turkeys, spawning fish, deer, and other wildlife can live again.

We’re still figuring out how to live with beavers, how to balance the benefits they bring while minimizing the damage they can cause. An opportunity exists for people to rediscover a direct connection to the animal that founded our state and, in many ways, our nation. ▲

Gilbert Randolph is a writer and an avid outdoorsman. When he’s not creating stories in the digital space, he’s exploring nature and sharing it with people.

The Frugal **DUCK HUNTER**

WATERFOWL HUNTING IS MORE AFFORDABLE AT MDC'S PUBLIC WETLANDS

by Bill Graham | photographs by David Stonner





Morning dawns on Nodaway Valley Conservation Area for hunters Phillip Boyer (left), Caleb Gentry (right), and Phillip's Labrador retriever, Duke.

Watching an autumn sunrise light up a marsh with ducks flying overhead is an adventure, especially when a group breaks off and glides downward toward decoys. The colors on their wings and backs come into clear view. Quacking chatter and wingbeats are heard. A hunter's heart quickens, nature's richness is felt.

Waterfowl hunting is a unique sport, one that's affordable for hunters willing to explore, use simple gear, and hunt at Missouri's public wetlands. Like any sport, duck and goose hunting can be a major or minor financial investment. But good times and wild game for the supper table are available to either approach.

Private duck and goose hunting clubs or blind rental on private land are available. They are valuable because they provide wetland habitat for all wildlife, hunting opportunities for people, and they contribute to local economies. Yet, they can be costly.

But low-cost ways to enjoy good shooting and harvesting ducks for dinner are also available. MDC has public wetlands that serve waterfowl migrating southward in autumn, and a staff that is happy to help hunters learn how to enjoy them.



Aaron Plummer hunts in good cover.



Good calling, concealment, scouting, and a dedication to studying waterfowl are what make duck hunters successful. This harvest reflects bag limits from several duck hunters.



A PLACE TO HUNT

Prime hunting is found at 15 conservation areas across the state that MDC intensively manages for wetland wildlife and waterfowl hunting. Hunting is managed on these areas with a draw system for permanent hunting blinds or specific pools for hunting.

“These areas offer hunting opportunities through random drawings,” said Craig Crisler, an MDC wildlife management biologist who manages the wetland-focused Bob Brown and Nodaway Valley conservation areas in northwest Missouri. “We have staff available every morning to help people who are new to duck hunting or new to the conservation area.”

Hunters will find opportunities statewide. For example, Ten Mile Pond Conservation Area (CA) is in the Mississippi River lowlands in southeast Missouri’s Bootheel. Ted Shanks CA is also within the Mississippi’s bottomland ecology north of St. Louis. Eagle Bluffs and Grand Pass conservation areas are in the Missouri River bottoms in the center of the state. MDC also conducts drawings for hunting spots on

MDC offers a variety of waterfowl hunting opportunities, from intensively managed wetlands with draw systems for blind positions to conservation areas with wetlands open to walk-in hunting.

U.S. Army Corps of Engineers properties along the Mississippi River north of St. Louis. That’s just a partial list.

MDC allocates hunting positions at managed waterfowl hunting areas with drawings for pre-season reservations, in-season reservations, and through daily drawings. For daily drawings, hunters gather during the pre-dawn hours at an area’s headquarters. Most areas conduct daily “poor-line” drawings for positions saved for the morning draw, or for spots where a hunting party did not show up to use a reservation. For poor-line hunters who do not draw a blind assignment, they may head to an area’s designated walk-in waterfowl hunting areas that are open to all. Most areas also have an ADA compliant blind available by reservation for hunters with mobility challenges. Hunters who draw a blind or pool can have up to three other hunters with them.

Scouting an area for good wetland habitat and waterfowl usage is

important. Don’t hesitate to contact area managers if you have questions. Hunters new to waterfowl hunting are welcome and encouraged at MDC conservation areas.

MDC also offers many waterfowl hunting opportunities at other conservation areas that have wetlands and lakes open to all without a managed draw. Hunters can walk, wade-in, or boat into good hunting spots. MDC maintains 80,000 acres of wetland habitat on 169 conservation areas where walk-in waterfowl hunting is allowed.

For any duck hunting, concealment is important to not spook ducks or geese as they’re flying into gun range. Some hunters use camouflage on boats or improvise onshore hunting spots using willows, reeds, or grasses to hide from approaching ducks. Once again, scouting helps. Make sure an area listed as offering waterfowl hunting is being actively used by ducks or geese.

SIMPLE WORKS

Crisler, also an avid waterfowl hunter, uses a homemade cart to haul in a plastic bucket for a chair and a dozen decoys for walk-in hunting. For cover, he uses tree saplings and marsh grass. Ducks will avoid decoys and a hunter's position if they spot the movement and outlines of people. Hunters stay hidden until ducks are within gun range.

Brian Perez of Independence hunts ducks at Smithville Lake north of Kansas City when he's successful in an annual Corps of Engineers drawing for permission to construct temporary shore blinds. But in years when he doesn't draw a blind spot, he's found an old farm pond on public land with lots of weed and shrub growth on shore for hiding places.

"It's about a mile walk back to it," Perez said. "I carry in my waders, a few decoys, a chair, my gun, and hunker down in the weeds. I've shot many a duck there."

Good maps and pre-season scouting are key. Finding ponds and seasonal wetlands close to larger wetlands or lakes that attract waterfowl are good bets. Private farm ponds sometimes attract ducks, but always get landowner permission to hunt.

GEARING UP

Gear for waterfowl hunting need not bust your bank account. Warm and dry clothing, waders, decoys, and calls are on the list.

Camouflage clothing helps with concealment, as does any rugged clothing that blends in with the colors and textures of the habitat near the water. Hip waders or chest waders are needed for wading in the water to retrieve downed game, especially if a hunter is not using a well-trained retrieving dog. Insulated chest waders also help keep a hunter warm and dry on the cold and rainy days of autumn and early winter, which can also be days when the ducks are really flying and coming into decoys.

Decoys are floating replicas of ducks and geese with weights for anchors that hunters place on the water in formations that mimic resting and feeding waterfowl. Whether you need a few,



Top: Minimal gear keeps duck hunting affordable and allows flexibility in choosing hunting spots. **Bottom:** Small decoy spreads are effective while reducing cost and labor.

a dozen, or dozens depends on where and how you plan to hunt. Decoys vary in cost, but natural-looking placement on the water is more important than purchase price. Garage sales, want ads, and second-hand stores are places to pick up decoy bargains.

Hunters blow into hand-held duck and geese calls to mimic the chattering sound of feeding and loafing waterfowl, which attracts and reassures the real thing. A good caller can lure ducks

toward decoys and hunter hiding places. Seasoned hunters may have several calls of different styles hanging on a lanyard. But a few calls will do, as practice and skill are most important. Calls for less than \$20 are available. Instruction is available on the internet. But the best free instruction is found listening to ducks in the marshes. Some hunters visit wetlands during the spring waterfowl migration to listen to real ducks and imitate them.

BOATS TO GET YOU THERE

Getting to the best spots at wetlands or lakes may require a boat. Many duck hunters use boats, canoes, or kayaks that are simple in style and relatively cheap in cost. MDC's managed wetlands often have channels or canals flooded in fall that hunters use to reach designated blinds or hunting spots. Hunters may hunt from boats or simply use them to reach a blind or a good hiding spot on shore. Shooting waterfowl from a boat is only legal if the boat is stationary.

Caleb Gentry of St. Joseph hunts regularly with family and friends at MDC wetlands, such as the Nodaway Valley CA. Sometimes he walks into a hunting spot. But when boats are called for, he uses a simple flat bottom aluminum boat propelled by an outboard motor designed for use in shallow, muddy waterways. The shallow-draft boat gets him to designated hunting spots that he's drawn, or it lets him maneuver to good spots where open hunting is allowed.

"The key to success," Gentry said, "is the amount of scouting you do and knowing where the ducks want to be."

Other hunters may use johnboats with small motors in the standard outboard styles, or bigger boats and motors for larger waters. Hunters sometimes rig up fishing boats with homemade frames. Then they cover the frames with reeds, grasses, or brush to create floating blinds.

Some hunters paddle kayaks and canoes to hunting spots. "I've hunted out of a canoe since I started hunting at Four Rivers [CA] in 2000," said Carl Elmore, who lives near Montgomery City.

Elmore first hunted ducks at Ted Shanks CA. Now, he often starts his season hunting for teal in September at Bob Brown CA in Holt County. But when the regular duck and goose season opens in the Middle Zone, he hunts at Four Rivers CA in Vernon and Bates counties. One money saver, he's tent camped at the primitive camping sites at the area, and in recent years, he secured permission to camp at a nearby landowner's farm.

At Four Rivers CA, hunters draw to hunt in designated wetland pools. Hunting from his canoe, Elmore usually lays down in it while calling and then rises when it's time to shoot. He rigs grass mats and perhaps some local vegetation to hide. Elmore uses as many as five dozen decoys, though at times he downsizes the spread.

"I can get into a lot of good places with my canoe," he said.

Boats with shallow draft are needed to reach hunting positions at some wetlands. But they can be simple, flat-bottomed boats, kayaks, or canoes. Here, Phillip Boyer and Aaron Plummer hide their boat after throwing out decoys.



Proper concealment is important when duck hunting. Hunkering in natural vegetation is a cheap way to hide.

Duke, Phillip Boyer's Labrador retriever, patiently waits for a duck.



GUNS AND GUN DOGS

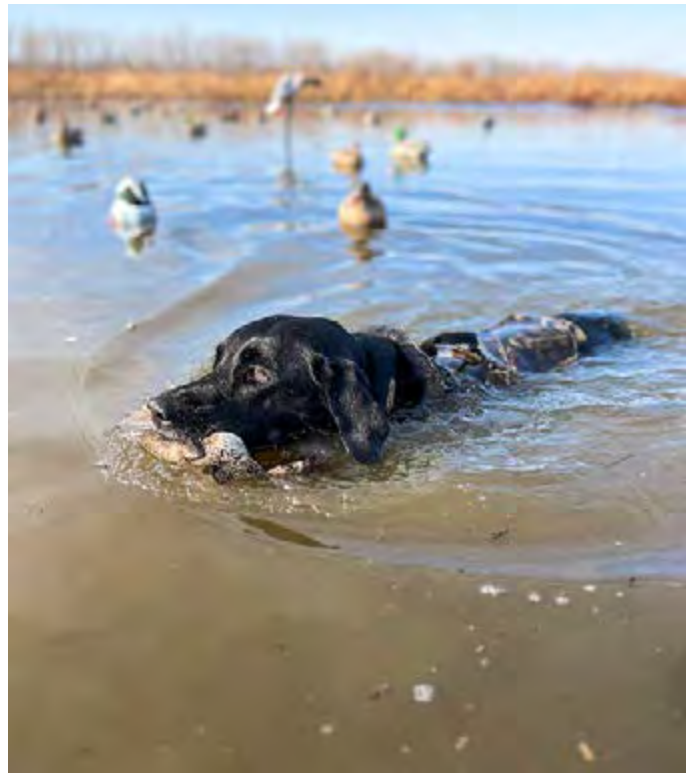
Elmore does hunt with one companion, Brees, his Labrador retriever. Brees lays down in the canoe behind him while he's calling and waiting for ducks.

Dogs retrieving downed game is both a big help and a joy to watch, and the companionship is rewarding. For many hunters, enjoying a good hunting dog — and perhaps family pet — is worth the time and money invested in them.

But dogs are not essential to being a waterfowl hunter. Wading to retrieve downed game works. Just be sure you know the water depth and bottom structure where you hunt. Hunters who use boats to reach hunting spots also can use them to retrieve game.

Waterfowl are hunted with shotguns, using only shot shells with non-toxic pellets. Specialized waterfowl shotguns are available and can be costly. But many successful hunters use one relatively inexpensive shotgun for both waterfowl and upland game birds. Some use shotguns with variable chokes, such as choke tubes. But others let ducks get into the right range for the improved cylinder, modified, or full choke barrel on their shotguns. A money saving tip — used shotguns can shoot just as smoothly as new ones and be more affordable.

"I only have one shotgun for all of my shotgun hunting," Crisler said. "Choosing the proper ammunition and shotgun choke is critical. For duck hunting where I feel I can get the ducks to work in close, I shoot 3-inch No. 4 steel shot and use an improved cylinder or modified choke. Many other people I know shoot No. 2 steel shot as well."



Duke retrieves a gadwall. Retrieving dogs are wonderful duck hunting partners, but wading or boating to retrieve downed game works, too.

DOG RETRIEVING DUCK: PHILLIP BOYER

GETTING STARTED

For newcomers to duck and goose hunting, visit MDC's web page for waterfowl, short.mdc.mo.gov/4p6. MDC's 2023–2024 *Migratory Bird and Waterfowl Hunting Digest* is a thorough overview of regulations and hunting opportunities throughout the state. The printed digest is available free at MDC offices and sporting goods stores, or online at short.mdc.mo.gov/4S2. Another tip, check in late summer and autumn for MDC's in-person or online waterfowl hunting classes listed on MDC Events, mdc.mo.gov/events. When in doubt, call an MDC office (see Page 2 for phone numbers) and ask questions.

Wetlands have a wild beauty in autumn that makes hunting waterfowl rewarding even when ducks and geese are scarce. But veteran hunters know, there will be a day when ducks are crisscrossing overhead and some glide in with wings cupped. Being there to see such a sight is everything. ▲

Bill Graham is MDC's media specialist for the Kansas City and Northwest regions. He is a lifelong hunter, angler, and camper, and enjoys hiking and photographing Missouri's best wild places.

MDC's public wetlands provide affordable hunting opportunities open to all, and newcomers are welcome.



Get Outside

in NOVEMBER →



Ways to connect
with nature

CENTRAL REGION

Missouri Trappers Association 2024 Fur Auction

Saturday • Feb. 24 • 8 a.m.
Montgomery County Fairgrounds,
700 South Sturgeon Street,
Montgomery City, MO 63361
All ages.

Looking for a place to sell your fur? The Missouri Trappers Association will hold its annual fur auction, featuring both green and finished fur. Applications for lot numbers will be accepted starting Nov. 1 with a deadline of Jan. 1. Applications received in this time period will be entered into a lottery to determine selling order. To get a complete set of rules, visit missouritrappers.com or contact fur auction chairman Jim Love at 636-359-2203.

Everyone is welcome to attend even if you are not selling fur. Breakfast and lunch are available.



Bald eagle

Bald Eagle Watch

Winter is a good time to look for bald eagles. They are usually seen near lakes, rivers, and marshes as they forage for fish or carrion. Strike out on your own to catch a glimpse of these majestic birds or join MDC for a bald eagle event. Visit mdc.mo.gov/events to find an event near you.

The Beauty of Mushrooms

On your autumn hikes, keep an eye out for mushrooms, which decorate autumn woodlands the way wildflowers do in the spring. It's a great time to learn more about Missouri mushrooms, which ones are edible and which ones are not. To help in your identification, use *A Guide to Missouri's Edible and Poisonous Mushrooms*, available online at short.mdc.mo.gov/ZNf or order a free copy at short.mdc.mo.gov/4Yq.



Smooth chanterelle

Natural Events to See This Month

Here's what's going on
in the natural world.



Crayfish
breed.



Eastern
gartersnakes
can be seen
on mild
days.



Voles and
mice are
active,
creating
tunnels under
the snow.

Give Your Rake a Break

Before you spend another precious weekend day raking leaves, consider this – why not leave them be? Fallen leaves are not only good for wildlife but they are good for the environment.

Backyard wildlife – including insects, butterflies, and other pollinators – need fallen leaves for refuge and food. The insects that overwinter in leaf litter now are essential food for nesting songbirds in the spring.

Deciduous trees absorb their leaves' nutrients and shed their leaves every fall. But the fallen leaves don't go to waste. Their nutrients nourish the soil, creating a nice mulch layer that helps rain and snow melt soak into the ground.



Witch-hazel

Still Blooming

It may be November, but you are seeing the bloom of a flower! Eastern witch-hazel is a shrub or small tree, occurring mostly in Missouri's eastern Ozarks, that flowers from November to December. Its flowers are yellow, adding a splash of color to woodlands as the fall foliage begins fading away.

VIRTUAL

Measuring Your Trophy

Saturday • Nov. 18 • 8:30-10:30 a.m.

Online only

Registration required by Nov. 17. Call 888-293-0364 or visit short.mdc.mo.gov/4eZ.

All ages.


Ever wonder what people mean when they say their deer scored 170? Have you wanted to know if your harvest was a trophy-setting animal? Join us for this class to learn how to score your harvest and what animals can be scored. This class does not qualify you to become a scorer. An official scorer must score your animal to be eligible for any record setting.



Mated female paper wasps seek overwintering nooks.



Bald cypress fruits ripen.



HUNTERS, HELP US!

NOVEMBER 11-12

MANDATORY SAMPLING of DEER OPENING FIREARMS WEEKEND in SELECT CWD MANAGEMENT ZONE COUNTIES

Get information on chronic wasting disease and find sampling locations at MDC.MO.GOV/CWD

Places to Go

SOUTHWEST REGION

Ruth and Paul Henning Conservation Area

Trails, towers, and TV classics

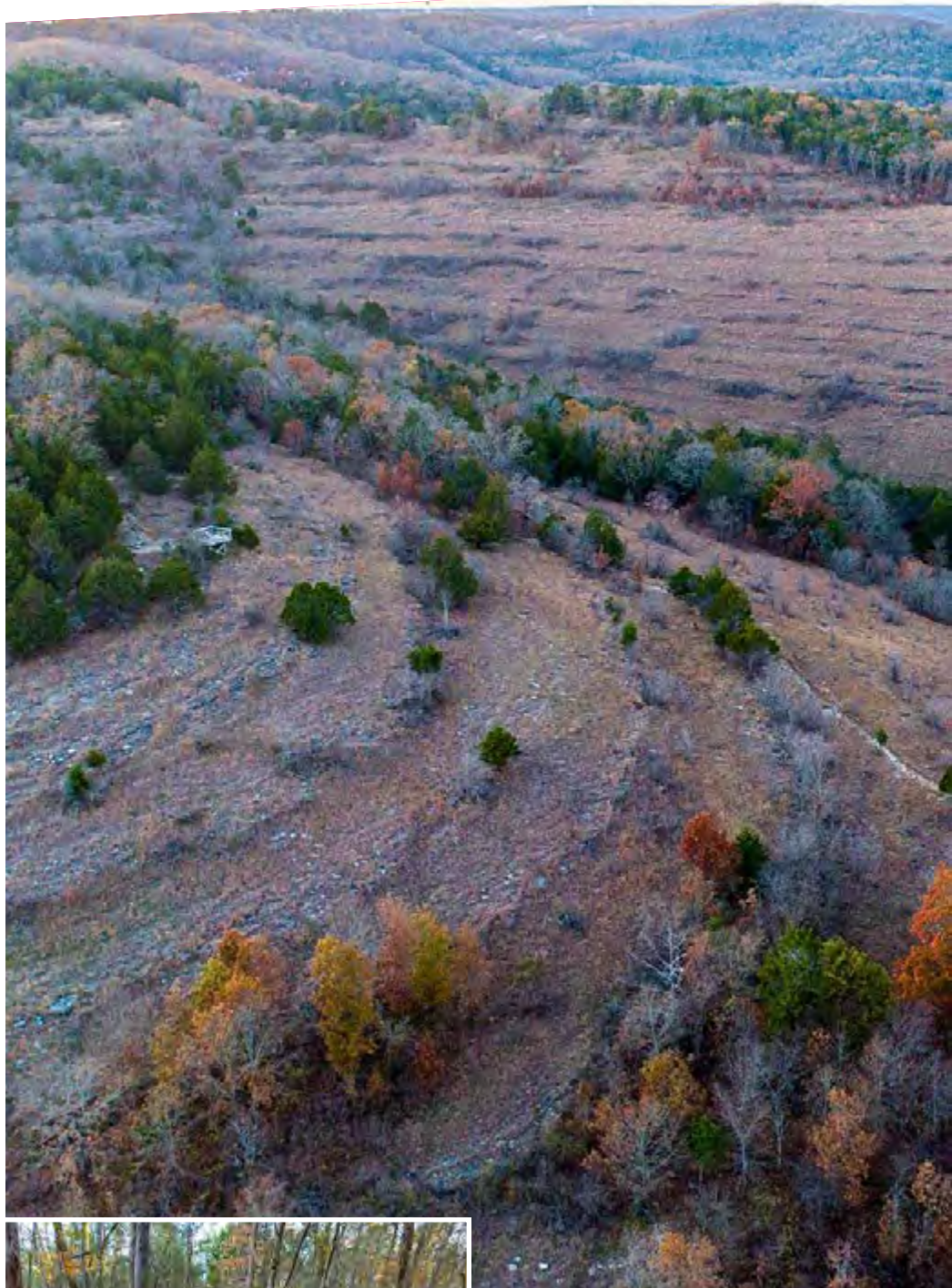
by Larry Archer

✳ **Start with a story about a man** named Jed, add a touch of classic Ozark literature, throw in trails, glades, and vistas, wrap them up inside 1,500 acres within the city limits of Missouri's music capital, and you get the Ruth and Paul Henning Conservation Area (CA).

Located in Branson, Henning CA has connections to literature and popular culture, as well as trails, viewing platforms, and an observation tower that give visitors views ranging from the Branson strip to the White River Balds Natural Area, said MDC Forester Stephen Short.

"Ninety percent of people that visit Henning enjoy the scenic overlook and the tower and see the early morning views," Short said. "Sunset and sunrise are extremely popular times to visit."

In addition to donating much of the property that is now the conservation area, Paul Henning also contributed to 1960s popular culture as the creator of television's *Beverly Hillbillies*, *Green Acres*, and *Petticoat Junction*. And while that connection hasn't resulted in a Jed Clampett Trail or Shady Rest viewing platform, the area's Dewey Bald, Boulder Bald, Sammy Lane's Lookout, and other features all pay tribute to Harold Bell Wright's 1907 Ozarks-based novel, *Shepherd of the Hills*.



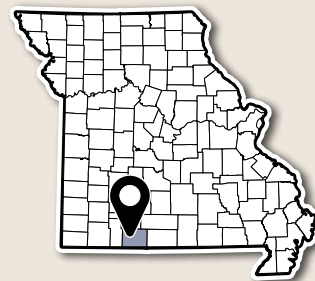
"There's really just a good mix of open and shaded places there. Hills and hollers and things of that nature."

—MDC Forester
Stephen Short

DAVID STONNER



Viewing decks give people a panoramic view of the woods and glades of the Ruth and Paul Henning Conservation Area. Trails provide access to many of the area's more than 1,500 acres.



RUTH AND PAUL HENNING CONSERVATION AREA

consists of 1,534 acres in Stone and Taney counties. The parking lot for the scenic overlook and trailhead is located on the east side of Highway 376 about 3/4 of a mile northwest from the intersection of Highway 376 and 76 Country Boulevard. To access the Homesteaders Trail from the parking lot on the north side of the area, turn right out of the scenic overlook parking lot, follow Highway 376 for 1.7 miles, turn right onto Old 76 Road, follow Old 76 Road and stay right at the intersection to turn onto Noland Road, stay on Noland Road until it becomes Sycamore Church Road, follow Sycamore Church Road until it crosses Roark Creek. A gravel parking lot will be on your right after you cross Roark Creek. The trailhead is located on the opposite side of the creek from the parking lot, across the bridge.

36.6571, -93.2961

short.mdc.mo.gov/4sc 417-334-3324

WHAT TO DO WHEN YOU VISIT



Birdwatching Included in the National Audubon Society's White River Glades and Woodlands Important Bird Area (short.mdc.mo.gov/4sR). The eBird list of birds recorded at Henning CA in November is available at short.mdc.mo.gov/4sD.



Trails Five hiking trails totaling 5.6 miles. Includes two observation decks, one 40-foot observation tower, and four interpretive kiosks.

WHAT TO LOOK FOR WHEN YOU VISIT



Golden-crowned kinglet



Red fox



Greater roadrunner



Raccoon



Turkey Tail Mushrooms

Trametes versicolor

Status

Edible

Size

1-4 inches

Distribution

Statewide



Turkey tail mushrooms grow in clusters of leathery, thin brackets with multicolored zones above and whitish yellow pores below. The caps are semicircular to spoon-shaped, and the caps' band of colors make true turkey tails easy to recognize. One of many fungus species that live on decaying wood, turkey tails and other such fungi play an incredibly important role in breaking down wood and returning those nutrients to the soil. Beware of false turkey tails (*Stereum ostrea*), which are parchmentlike with smooth undersides.



HUMAN CONNECTIONS

Humans have eaten mushrooms for thousands of years, in many cultures, and for various purposes. Some, like this species, are eaten for medicinal properties. Always be sure of your identifications before you consume any wild mushroom. For more information, visit short.mdc.mo.gov/4sz.



LIFE CYCLE

This species lives within rotting logs of deciduous trees as a whitish network of cells – or mycelium – that digests and decomposes dead wood. When ready to reproduce, the mycelium develops the mushroom, which emerges from the log. This is the reproductive structure. Spores are produced on the underside and are released to begin new mycelia elsewhere.

Outdoor Calendar

❖ MISSOURI DEPARTMENT OF CONSERVATION ❖



Free MO Hunting and MO Fishing Apps

MO Hunting makes it easy to buy permits, electronically notch them, and Telecheck your harvest. MO Fishing lets you buy permits, find great places to fish, and ID your catch. Get both in Android or iPhone platforms at short.mdc.mo.gov/Zi2.

FISHING

Black Bass

Impounded waters and non-Ozark streams:
Open all year

Most streams south of the Missouri River:

- ▶ Catch-and-Keep:
May 27, 2023–Feb. 29, 2024

Nongame Fish Giggling

Streams and impounded waters,
sunrise to midnight:
Sept. 15, 2023–Feb. 15, 2024

Paddlefish

On the Mississippi River:
Sept. 15–Dec. 15, 2023
March 15–May 15, 2024

Trout Parks

During the catch-and-release season,
state trout parks (except Marmec Spring
Park) are open only Friday–Monday.

Catch-and-Release:

Nov. 10, 2023–Feb. 12, 2024

TRAPPING

Badger, Gray Fox, Red Fox

Nov. 15, 2023–Jan. 31, 2024

Beaver, Nutria

Nov. 15, 2023–March 31, 2024

Bobcat, Coyote, Mink, Muskrat, Opossum, Raccoon, River Otter, Striped Skunk

Nov. 15, 2023–Feb. 29, 2024

HUNTING

Badger, Gray Fox, Red Fox

Nov. 15, 2023–Jan. 31, 2024

Bobcat, Opossum, Raccoon, Striped Skunk

Nov. 15, 2023–Feb. 29, 2024

Coyote

Restrictions apply during April, spring turkey
season, and firearms deer season.

Open all year

Crows

Nov. 1, 2023–March 3, 2024

Deer

Archery:

Sept. 15–Nov. 10, 2023

Nov. 22, 2023–Jan. 15, 2024

Firearms:

- ▶ November Portion:
Nov. 11–21, 2023
- ▶ **New!** CWD Portion (open areas
only): Nov. 22–26, 2023
- ▶ Late Youth Portion (ages 6–15):
Nov. 24–26, 2023
- ▶ Late Antlerless Portion (open areas only):
Dec. 2–10, 2023
- ▶ Alternative Methods Portion:
Dec. 23, 2023–Jan. 2, 2024

Doves

Sept. 1–Nov. 29, 2023

Elk

Only hunters selected through a random drawing
may participate in these hunting seasons.

Firearms:

Dec. 9–17, 2023

Groundhog (Woodchuck)

May 8–Dec. 15, 2023

Pheasant

Regular:

Nov. 1, 2023–Jan. 15, 2024

Quail

Regular:

Nov. 1, 2023–Jan. 15, 2024

Rabbits

Oct. 1, 2023–Feb. 15, 2024

Sora, Virginia Rail

Sept. 1–Nov. 9, 2023

Squirrels

May 27, 2023–Feb. 15, 2024

Turkey

Archery:

Sept. 15–Nov. 10, 2023

Nov. 22, 2023–Jan. 15, 2024

Waterfowl

See the Migratory Bird and Waterfowl
Hunting Digest or visit short.mdc.mo.gov/ZZx
for more information.

Wilson's (Common) Snipe

Sept. 1–Dec. 16, 2023

Woodcock

Oct. 15–Nov. 28, 2023



ILLUSTRATION: MARK RATHIEL

For complete information about seasons, limits,
methods, and restrictions, consult the *Wildlife
Code of Missouri* at short.mdc.mo.gov/Zib.
Current hunting, trapping, and fishing regulation
booklets are available from local permit vendors
or online at short.mdc.mo.gov/ZZf.



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